

18.0 RISK MANAGEMENT

18.1 Introduction

This chapter of the Environmental Impact Assessment Report (EIAR) sets out the assessment of the vulnerability of the Proposed Development at Milltown Park, Sandford Road, Dublin 6, Do6 VgK7 to risks of major accidents/ and or disasters. It assesses the expected effects of the project to risk of major accidents and disasters relevant to the project. It includes the methodology used for the assessment. The Interactions and Cumulative Impact and Mitigation and Monitoring Measures are included in chapters 19.0 and 20.0, respectively.

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This chapter has been updated by Louise Hewitt, Environmental Consultants with DNV (formerly Enviroguide Consulting). Louise has a Master of Science (Hons) in Environmental Resource Management from University College Dublin and a Bachelor of Science (Hons) in Biology from Maynooth University. Louise has worked as an Environmental Consultant with DNV (formerly Enviroguide Consulting) since 2021 and has built up experience preparing EIA Screening Reports, Introduction, Population and Human Health and Archaeology and Cultural Heritage and Risk Management chapters of EIARs for residential developments.

This chapter has been further updated by Darragh Grant, Environmental Consultant with DNV (formerly Enviroguide Consulting). Darragh is an EIA practitioner with a bachelor's degree in Zoology (University College Dublin) and a master's degree in Environmental & Climate Law (University College Dublin). Darragh has experience preparing EIA Screening Reports, Material Assets (Waste and Utilities), Interactions and Cumulative Impacts and Mitigation and Monitoring Measures chapters of EIARs for residential developments.

This chapter has been prepared in accordance with the above requirements and by reference to the EIA Directive and implementing legislation, the Seveso III Directive, the Safety Health and Welfare at Work Act, 2005 and the Floods Directive (2007/ 60/EC).

In summary, the Proposed Development will principally consist of: the demolition of c. 4,847.5 sq m of existing structures on site including Milltown Park House (880 sq m); Milltown Park House Rear Extension (2,031 sq m); the Finlay Wing (622 sq m); the Archive (1,240 sq m); and the link building between Tabor House and Milltown Park House rear extension to the front of the Chapel (74.5 sq m); the refurbishment and reuse of Tabor House (1,575 sq m) and the Chapel (768 sq m) and the provision of a single storey glass entrance lobby to the front and side of the Chapel (51.9 sq m); and the provision of 562 No. residential units comprising 6 No. three-bed courtyard houses and 556 No. apartment units (70 No. studios, 176 No. one-bed units, 267 No. two bed-units and 43 No. three-bed units).

The Proposed Development also includes the provision of: a cultural/community space within Tabor House (4 No. storeys including lower ground floor level) and the Chapel (2 No. storeys including lower ground floor and mezzanine level) (1,698 sq m) with associated outdoor space (248 sq m); a café/restaurant (179 sq m) and a creche (375 sq m) within Block F with associated outdoor creche play area; ancillary residents' amenities and facilities within Blocks B & C; and a single storey bin store and substation adjacent to Block F (101 sq m).

18.2 Study Methodology

18.2.1 Scope and Context

The relevant legislation that applies to this chapter is the *Planning and Development Regulations 2001 as amended*, and in particular Schedule 6-Information to be contained in EIAR. The following paragraph of Schedule 6, Paragraph 2(e)(i)(IV), specifically refers to "*a description of the likely significant effects on the environment of the proposed development resulting from... the risks to human health, cultural heritage or the environment (for example, due to accidents or disasters)*".

Paragraph 2(h) further expands with "*a description of the expected significant adverse effects on the environment of the proposed development deriving from its vulnerability to risks of major accidents and/or disasters which are relevant to it. Relevant information available and obtained through risk assessments pursuant to European Union legislation such as the Seveso III Directive or the Nuclear Safety Directive or relevant assessments carried out pursuant to national legislation may be used for this purpose, provided that the requirements of the Environmental Impact Assessment Directive are met. Where appropriate, this description should include measures envisaged to prevent or mitigate the significant adverse effects of such events on the environment and details of the preparedness for, and proposed response to, emergencies arising from such events.*"

Additionally, the *Chemicals Act (Control of Major Accident Hazards involving Dangerous Substances) Regulations 2015* (S.I. No. 209 of 2015) (the "COMAH Regulations"), which implement the Seveso III Directive (2012/18/EU), and which revoked the 2006 Major Accident Regulations also applies to this chapter.

18.2.2 Guidelines and Reference Material

Cognisance has been taken of the *Guidelines on the Information to be Contained in Environmental Impact Assessment Reports* (EPA, 2022). This document follows the requirements laid out in the Directive 2014/52/EU.

Specifically, the EPA Guidelines state that the EIAR must take account of "*the vulnerability of the project to risk of major accidents and/or disasters relevant to the project concerned and that the EIAR therefore explicitly addresses this issue. The extent to which the effects of major accidents and/or disasters are examined in the EIAR should be guided by an assessment of the likelihood of their occurrence (risk)... The potential for a project to cause risks to human health, cultural heritage or the environment due to its vulnerability to external accidents or disasters is considered where such risks are significant, e.g., the potential effects of floods on sites with sensitive plants. Where such risks are significant then the specific assessment of those risks in the form of a Seveso Assessment (where relevant) or Flood Risk Assessment may be required. The EIAR should refer to those separate assessments while avoiding duplication of their contents.*"

Reference has also been made to the Department of the Environment, Heritage & Local Government (DoEHLG) Publication '*Guide to Risk Assessment in Major Emergency Management 2010*' and the Office of Emergency Planning, Department of Defence (DOD) Publication '*A National Risk Assessment for Ireland 2020*'. A consolidated list of national hazards for Ireland identified in the DOD document are identified in Table 18-1.

Table 18.1 Consolidated List of National Hazards

(Source: A National Risk Assessment for Ireland (Department of Defence, 2017))

Hazard: Civil

- Infections Disease
- Terrorist Incident
- Animal Disease
- Foodborne Outbreaks
- Crowd Safety
- Civil Disorder
- Loss of Critical Infrastructure

Hazard: Natural

- Storm
- Flooding
- Snow
- Low temperatures
- High temperatures
- Volcanic Ash
- Drought
- Tsunami
- Space weather

Hazard: Transportation

- Road
- Rail
- Air
- Maritime
- Transport Hub

Hazard: Technological

- Industrial Incident
- Hazmat
- Fire
- Nuclear Incident (Abroad)
- Radiation Incident (Domestic)
- Disruption to electricity/gas supply
- Disruption to oil supply
- Network and Information Security/ Cyber Incident

18.2.3 Risk Assessment Methodology

The risk assessment methodology has been supported by general risk assessment methods. Hazard analysis and risk assessment are accepted internationally as essential steps in the process of identifying the challenges that may have to be addressed by society, particularly in the context of emergency management. Mitigation as a risk treatment process involves reducing or eliminating the likelihood and/or the impact of an identified hazard.

Table 18.2 Classification of National Likelihood Criteria

(Source: A National Risk Assessment for Ireland, Department of Defence, 2017)

National Likelihood Criteria		
Rating	Classification	Average Recurrence Interval
1	Extremely Unlikely	500 or more years between occurrences
2	Very Unlikely	100-500 years between occurrences
3	Unlikely	10-100 years between occurrences
4	Likely	1-10 years between occurrences
5	Very Likely	Less than 1 year between occurrences

18.3 Predicted Impacts

The EIAR chapters within this report identify that the Proposed Development has been designed in accordance with best practice and that the Proposed Development can be safely undertaken without risk to health. In order to understand the potential consequences and predicted impacts of any major accident or disaster due to the Proposed Development and the vulnerability of the project, a desk study was undertaken. The assessment reviewed:

- The vulnerability of the project to major accidents or disasters; and
- The potential for the project to cause risks to human health, cultural heritage and the environment, as a result of that identified vulnerability.

A methodology has been used including the following assessment:

- Identifying and screening the hazards;
- Screening the hazards;
- Identifying the impact;
- Assessing the likelihood of the major accident or disaster occurring; and
- Assessing any risks that remain.

Step 1-Identifying the Events:

The DOD Consolidated List of National Hazards was used to identify a preliminary list of potential major accident and disaster events. General hazard events on receptors specifically covered by health and safety legislation were not included within the assessment, e.g. construction workers

Step 2-Screening the Hazard for Relevance to the Proposed Development:

The list was screened and major events, such as volcanoes were not included given the unlikely event of one occurring. Elements already addressed as a key part of the design, e.g. risk of landslides are not repeated.

Step 3- Consideration of Events:

Where relevant, the chapter reports where major accidents and disaster events are covered in the relevant chapter.

Table 18.3 lists the potential major accidents and/or disaster events reviewed.

Table 18.3 Major Accidents and/or Disasters Reviewed

Major Accident or Disaster Event	Relevant for this Proposed Development?	Why Relevant?	Potential Receptor	Covered within EIAR?
Civil				
Large Crowd Event	N	<p>The Proposed Development will include the provision of 562 No. residential units including 556 No. apartment units, in addition to a community/cultural space with associated outdoor space, a café/restaurant and a creche.</p> <p>There will be an approximate maximum of 43 workers employed during the operational phase. The proposed creche will employ a maximum of 20 staff. The proposed café/restaurant will employ a maximum of 10 staff, and the proposed culture/community space will employ a maximum of 5 staff.</p> <p>In addition, there will be approximately 8 people employed for grounds maintenance, building maintenance and concierge during a 24-hour period.</p> <p>Not considered vulnerable.</p>	Employees and residents	N/A
Pandemic	Y	Pandemic related disease can spread between employees causing illness.	Local businesses, construction and operational phase employees	Covered in Section 18.4 of this Risk chapter.
Terrorist Attack	N	Not considered vulnerable.	N/A	N/A

Major Accident or Disaster Event	Relevant for this Proposed Development?	Why Relevant?	Potential Receptor	Covered within EIAR?
Animal Disease	N	Not considered vulnerable.	N/A	N/A
Food Chain Contamination	N	Not considered vulnerable.	N/A	N/A
Waterborne Diseases	Y	Waterborne diseases can be caused by consuming contaminated drinking water. A potable water supply will be supplied to the Proposed Development via a connection to an existing Uisce Éireann supply. Not considered vulnerable.	N/A	Refer to Chapter 11 Water and Hydrology of this EIAR for information on water supply.
Crowd Safety	N	Not considered vulnerable.	N/A	N/A
Civil Disorder	N	Not considered vulnerable.	N/A	N/A
Loss of Critical Infrastructure	N	Not considered vulnerable.	N/A	N/A
<u>Transportation</u>				
Road Accidents	Y	Fuel spillages from construction related vehicles can cause unsafe road conditions.	Road users, land and soils, hydrology and water, aquatic environment.	Chapter 10 Land, Soils and Geology and Chapter 11 Water and Hydrology of this EIAR have assessed the potential for spillages during the project and proposed mitigation measures including the requirement for spill kits and bunds for refuelling.

Major Accident or Disaster Event	Relevant for this Proposed Development?	Why Relevant?	Potential Receptor	Covered within EIAR?
Rail Accidents	N	Not considered vulnerable as the site of the Proposed Development is approximately 2.61KM from the closest train station at Sydney Parade, Sydney Parade Ave, Dublin. The site is located approximately c. 500 metres northeast as the crow flies from the Cowper LUAS stop, and c. 616 metres southeast as the crow flies from the Beechwood LUAS stop.	N/A	N/A
Aircraft Disasters	N	Not considered vulnerable as the Proposed Development is located approximately 11.3km as the crow flies from Dublin Airport and runways and approximately 12.7km as the crow flies from Casement Aerodrome.	N/A	N/A
Maritime Disaster	N	Not considered vulnerable as the site is approximately 2.6km as the crow flies from the coast.	N/A	N/A
Transport Hub	N	Not considered vulnerable.	N/A	N/A
Natural				
Cultural, Archaeological and Architectural Heritage	Y	<p>There are no protected structures or recorded monuments located within the Proposed Development site. However, there are a number of archaeological monuments in the townland of Clonskeagh to the east.</p> <p>The subject site is located in close proximity to the Architectural Conservation Area at Belmont Avenue, Mt. Eden Road and environs. The closest monument to the subject site is the site of a ringfort (DU022-089;</p>	Previously unrecorded sites of archaeological and cultural heritage interest.	Chapter 6 Archaeology and Cultural Heritage and Chapter 7 Architectural Heritage of this EIAR identify all protected structures, architectural conservation areas and monuments within

Major Accident or Disaster Event	Relevant for this Proposed Development?	Why Relevant?	Potential Receptor	Covered within EIAR?
		Clonskeagh) located 325m to the southeast. Additional adjacent monuments are located 500-600m from the subject site. The site can be described as being located in an area of moderate archaeological potential.		proximity to the Proposed Development. Mitigation measures for the construction phase have been proposed in Chapter 6 and Chapter 7.
Landslides	N	The potential for landslides has been considered within the design; therefore no future assessment is required.	N/A	N/A
Sinkholes	N	The geology is not prone to sinkholes and there are no karst areas mapped within the vicinity of the Proposed Development.	N/A	N/A
Earthquakes	N	The area is not geologically active.	N/A	N/A
Flooding	N	A Site-Specific Flood Risk Assessment for Proposed Development was undertaken by DBFL Engineers. The Proposed Development is located in Flood Zone C and is considered to have the required level of flood protection up to and including the 1% Annual Exceedance Probability (AEP) flood event.	Development	Chapter 11 Water and Hydrology of this EIAR identified the vulnerability of the project to flooding and includes proposed mitigation measures to address residual flood risks.
Blizzards	N	Not relevant.	N/A	N/A
Droughts	N	Not relevant.	N/A	N/A
Severe weather such as tornadoes and heatwaves	N	Not relevant.	N/A	N/A
		Demolition activities and traffic emissions (particularly Heavy Goods Vehicles) from construction vehicles can		Chapter 12 Air Quality and Climate of this EIAR

Major Accident or Disaster Event	Relevant for this Proposed Development?	Why Relevant?	Potential Receptor	Covered within EIAR?
Air Quality Events	Y	negatively impact air quality and subsequently human health. Operational phase traffic emissions can also negatively impact air quality.	Residents/workers	identifies the impact of the construction and operation of the Proposed Development on air quality. The Construction Management Plan prepared by DBFL Engineers also includes dust suppression practices to be implemented during the construction phase.
Wildfires	N	Not considered vulnerable.	N/A	N/A
Dam, Bridge or Tunnel Failure	N	None present.	N/A	N/A
Flood Defence Failure	N	This has been assessed in Chapter 11 Water and Hydrology of this EIAR. A Site-Specific Flood Risk Assessment has also been undertaken. No flood events are noted in the immediate vicinity of the site and therefore no flood defence measures have been proposed.	N/A	Chapter 11 Water and Hydrology of this EIAR identifies the vulnerability of the project to flooding and includes proposed mitigation measures to address residual flood risks.
Other				
Fire	Y			The design criteria of the buildings are in accordance

Major Accident or Disaster Event	Relevant for this Proposed Development?	Why Relevant?	Potential Receptor	Covered within EIAR?
		The risk of fire inside the apartments might lead to loss of life.	Residents and nearby properties.	with all relevant building and fire safety standards. Smoke ventilation, fire alarms and emergency lighting are fitted on all buildings and a sprinkler system is fitted on the apartment buildings.
Cyber Attacks	N	Not considered vulnerable.	N/A	N/A
Utilities Failure	Y	Disruptions to electricity supply, water supply, communications and wastewater can disrupt local business and residents.	Local businesses, residents and future residents.	Chapter 10 Land, Soils and Geology, Chapter 11 Water and Hydrology and Chapter 16 Material Assets-Site Services contain information on containment and operational systems.
Industrial Accidents (Defence, Energy, Oil and Gas Refinery, Food Industry, Chemical Industry, Manufacturing, Quarrying, Mining)	N	<p>There are no Upper Tier Seveso sites near the Proposed Development. The closest is in National Oil Reserves Agency Ltd., Shellybanks Road, Ringsend, Dublin 4, located approximately 4.6KM northeast as the crow flies from the site.</p> <p>There is one Lower Tier Seveso site located approximately 3.4KM northeast as the crow flies from the Proposed Development at Synergen Power Ltd t/a</p>	N/A	N/A

Major Accident or Disaster Event	Relevant for this Proposed Development?	Why Relevant?	Potential Receptor	Covered within EIAR?
		ESB Dublin Bay Power Pigeon House Road, Ringsend, Dublin 4.		
Invasive Species	Y	<p>Invasive species surveys were incorporated into the ecological walkovers carried out by DNV (formerly Enviroguide Consulting) between 2019-2023. Invasive Plant Solutions also carried out site surveys between 2020 and 2023. Invasive Alien Plant Species (IAPS) were detected on site namely Three Cornered Garlic and Spanish/Hybrid Spanish Bluebell. A follow up site survey was carried out in October 2025. It was not possible to validate either the presence or extent of Three Cornered Garlic and Spanish Bluebell plants. A further site survey, to be carried out in early Spring 2026, will be required to establish the current status of the IAPS infestations.</p> <p>There is potential for IAPS to spread to surrounding areas through the removal and movement of soil and machinery on site.</p>	Surrounding habitats	<p>An Invasive Species Management Plan is required for the effective, control, management and treatment of the same. Further detail is provided in Chapter 8 Biodiversity of this EIAR.</p> <p>An IAPS Report & Management Plan has been prepared by Invasive Plant Solutions (2025) for this application.</p>
Disruption to Oil Supply	N	Not considered vulnerable.	N/A	N/A
Nuclear Accident	N	Not considered vulnerable.	N/A	N/A
Building Failure	Y	This has been taken into consideration in the building design. All apartments and houses have been designed to modern standards. No further assessment is required.	Residents	The design criteria of the buildings are in accordance with all relevant building design standards.
Road Signs and Masts Failure	N	Not considered vulnerable due to the principal residential nature of the development.	Road users	N/A

18.4 Risk Management Plans

18.4.1 Fire Safety and Emergency Response

The design criteria of the buildings are in accordance with all relevant building and fire safety standards. Smoke ventilation, fire alarms and emergency lighting are fitted on all buildings and a sprinkler system is fitted on the apartment buildings. A fire evacuation strategy will be put in place in advance of dwelling occupancy.

18.4.2 Biosecurity Measures for Management and Treatment of IAPS at the Site

Several invasive alien plant species were recorded during ecological surveys carried out on site. An IAPS Report has been prepared by Invasive Plant Solutions for the site. This document covers the bio-security measures to be taken, including the maintenance of records, to screen for the introduction of IAPS onsite, and to enable their tracing if such an introduction occurs; and to ensure no transmission of IAPS offsite. The measures to be implemented are also detailed in Chapter 8 Biodiversity of this EIAR (Section 8.11.1.2).

18.4.3 Management of Pandemic Related Disease

All workers employed during the Construction and Operational Phase of the Proposed Development will comply with the relevant Government protocols that may be in place at that point in time in relation to pandemic related disease.

18.5 Residual Impacts

Control measures will be observed for health and safety and environmental management in accordance with relevant code of practices (Code of Practice for Inspecting and Certifying Buildings and Works) and relevant legislation including *Building Control Act 1990* (No. 3 of 1990), as amended and *Building Control Regulations 1997*, as amended. It is considered that the vulnerability of the Proposed Development to the risk of major accidents or disasters will not be significant.

18.6 Monitoring

There is no monitoring required with regards to the risk of major disasters and accidents beyond standard mitigation and management measures. All monitoring proposals for the interacting chapters have been detailed in the relevant technical chapters and are included in Chapter 20 Mitigation Measures and Monitoring of this EIAR.

18.7 Difficulties Encountered

No difficulties or limitations were encountered in completing this chapter.

18.8 Conclusion

The design has considered the potential for flooding, road accidents or fire within the design methodology. The vulnerability of the Proposed Development to major accidents and/or disasters is not considered to be significant.